

REMARKS

Reconsideration of this application is respectfully requested in view of the foregoing amendment and the following remarks.

A copy of a corrected unsigned declaration is enclosed herein. Applicant's representatives have contacted the Assignee for this application and have been informed that the complete group of inventors are not immediately available to sign a new declaration. If attempts to secure all inventor's signatures are not successful, the Assignee plans to submit an affidavit indicating the status of all the inventors.

Accordingly, should the Examiner deem that the present Amendment otherwise places this application in allowable form, Applicants invite the Examiner to close prosecution except as to the amended declaration, which will be submitted in due course.

In the Office Action, claim 22 was objected to because of the following informalities: the claim is dependent upon the cancelled claim 20. Claim 4 was rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,950,118 to Freeburg, et al ("Freeburg"). Claim 5 was rejected under 35 U.S.C. §103(a) as being unpatentable over Freeburg, et al. in view of U.S. Patent No. 5,825,756 to Hattori ("Hattori"). Claim 12 was rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,506,228 to Kammeyer ("Kammeyer") in view of U.S. Patent No. 6,664,849 to Taura, et al ("Taura"). Claims 2, 7-9, 14-16 and 17-19 were allowed.

The Abstract was objected to because of awkward wording in line sentence 3 on lines 2-3.

The declaration was objected to as having an incorrect filing date for a foreign application priority date entered therein.

Applicants thank the Examiner for indicating allowable subject matter.

In the present Amendment, the second sentence of the Abstract has been amended to read: "The signal is undersampled and quadrature demodulated." Claim 4 has been amended to clarify features of the present invention. Claim 22 has been amended to correct matters of form.

As an initial matter, Applicants respectfully note that the claim 12 has been previously amended in independent form to recite all the features of cancelled base claim 10 and original dependent claim 12. In an Office action mailed March 26, 2004, the Examiner indicated that original dependent claim 12 would be allowable if amended in independent form to recite all the limitations of base claim 10. Pursuant to the Examiner's suggestion, in an amendment filed June 4, 2004 original claim 12 was amended to incorporate all the features of base claim 10 and the feature of original base claim 12 ("wherein the second I signal and the second Q signal are each delayed by one sample"). Nevertheless, in the Office Action mailed September 8, 2004, claim 12 stands rejected. In light of the foregoing, Applicants respectfully submit that this rejection be removed. Moreover, Applicants respectfully submit that Kammeyer and Taura, whether taken singly or in combination, fail to teach or suggest the feature of claim 12, wherein "the second I signal and the second Q signal are each delayed by one sample".

As a second matter, although Applicants believe that the previously amended claim 4 was patentable over Freeburg, claim 4 has been amended to clarify features of the invention in this Amendment. Claim 4, as amended herein, recites a method for demodulating a frequency-

modulated signal that includes generating a first and second signal, each of which is a digital signal (“generating a first digital signal by fixing the modulated signal amplitude at a predetermined level . . . generating a second digital signal by delaying the first signal . . .”). The first and second digital signals are multiplied to generate a cross-product (“generating an output signal by determining the cross product of the first digital signal and the second digital signal”). Accordingly, the output signal is a cross product of two digital signals. Freeburg teaches a system in which an first signal (Figure 2, item 202) and a second delay signal (Figure 2, item 204) are multiplied to form an output signal at an output terminal (Figure 2, item 116) that is subsequently digitized *after* being multiplied (Figure 2, item 212). Thus, Freeburg does not teach or fairly suggest a demodulation technique wherein a first signal and second signal are multiplied to produce a cross-product (“generating an output signal by determining the cross product of the first signal and the second signal”), wherein the first and second signal are digitized signals. Accordingly, upon entry of the present Amendment, claim 4 should be in allowable condition. At least for its dependence on claim 4, claim 5 should also be allowable.

In light of the foregoing, all the claims that will be pending herein are believed to be in condition for allowance.

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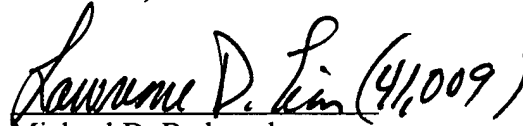
Should the Examiner have any questions or determine that any further action is desirable to place this application in even better condition for issue, the Examiner is encouraged to telephone applicants' undersigned representative at the number listed below.

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Respectfully submitted,

HORVAT, ET AL.

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Enclosure: Declaration

MDB/PCC/RAR/

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